



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,009	10/24/2003	Scott Willis Jorgensen	GP-304048	9363
7590	06/30/2005		EXAMINER	MARTIN, ANGELA J
Cary W. Brooks General Motors Corporation Legal Staff 300 Renaissance Center, MC 482-C23-B21 P.O. Box 300 Detroit, MI 48265-3000			ART UNIT	PAPER NUMBER
			1745	
				DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/693,009	JORGENSEN ET AL.	
	Examiner	Art Unit	
	Angela J. Martin	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 24 October 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-17 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4-7, 10-13, 16, 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Wlech, U.S. Pat. No. 6,195,999 B1.

Rejection of claims 1, 4-7, 10-13, 16, 17 drawn to a fuel cell system.

Wlech teach a fuel cell system comprising a fuel cell stack generating output power and heat (col. 1, lines 40-59), the stack being responsive to coolant on a coolant input line and outputting heated coolant on a coolant output line (col. 1, lines 40-66); and a heat pump module responsive to the heated coolant (col. 1, lines 40-59), the module including a compression device (col. 3, lines 18-32), the device reducing temperature of compressed coolant (col. 3, lines 3-17), the heat pump module further including an expansion device responsive to the cooled and compressed coolant from the cooling device (col. 4, lines 22-25), the expansion device decreasing the pressure and temperature of the coolant to further cool the coolant (col. 4, lines 25-43), where the cooled coolant is applied to the stack on the coolant input line (col. 1, lines 40-59). It teaches the cooling device is a radiator (col. 3, lines 3-10). It teaches the expansion device is an orifice separating a high pressure chamber from a low pressure chamber

(col. 4, lines 22-42). It teaches the fuel cell system provides power to a vehicle (col. 1, lines 5-11).

Thus, the claims are anticipated.

3. Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujita et al., U.S. Pat. No. 5678,410.

Fujita et al., teach a fuel cell system comprising a fuel cell stack generating output power and heat (abstract), the stack being responsive to coolant on a coolant input line and outputting heated coolant on a coolant output line (col. 2, lines 53-67); and a heat pump module responsive to the heated coolant (col. 28, lines 49-61), the module including a compression device (col. 13, lines 27-58), the device reducing temperature of compressed coolant (col. 29, lines 45-64), the heat pump module further including an expansion device responsive to the cooled and compressed coolant from the cooling device (col. 22, lines 59-67), the expansion device decreasing the pressure and temperature of the coolant to further cool the coolant (col. 29, lines 19-45), where the cooled coolant is applied to the stack on the coolant input line (col. 3, lines 64-67 and col. 4, lines 1-7). It teaches further comprising a hydride bed (col. 3, lines 20-34), the compressed coolant applied to the bed to heat a hydride and release hydrogen (col. 3, lines 41-63), the coolant from the bed being applied to the radiator (col. 7, lines 65-67 and col. 8, lines 1-43). It teaches the coolant is hydrogen (col. 2, lines 20-32). It teaches the cooling device is a radiator (col. 8, lines 1-43). It teaches the expansion device is an orifice separating a high pressure chamber from a low pressure chamber (col. 22, lines

59-67 and col. 23, lines 1-10). It teaches the fuel cell system provides power to a vehicle (abstract).

Thus, the claims are anticipated.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Arnold et al., U.S. Pat. No. 6,195,999 B1, teach an electrochemical engine comprising a fuel cell stack and heat generator.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is 571-272-1288. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



AJM



PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER